TABLE 56.60–1(B)—ADOPTED STANDARDS APPLICABLE TO PIPING SYSTEMS (REPLACES TABLE 126.1)—Continued

B16.28 ...	Wrought Steel Buttwelding Short Radius Elbows and Returns.[4]
B16.29 ...	Wrought Copper and Wrought-Copper Alloy Solder Joint Drainage Fittings.[4]
B16.34 ...	Valves—Flanged, Threaded and Welding end.[3]
B16.42 ...	Ductile Iron Pipe Flanges and Fittings.[3]
B18.2	[Reserved]
B18.2.1 ..	Square and Hex Bolts and Screws, Inch series.
B18.2.2 ..	Square and Hex Nuts.
ASTM Standards (American Society for Testing and Materials), 100 Barr Harbor Drive, Conshohocken, PA 19428–2959.	
F682	Wrought Carbon Steel Sleeve-Type Couplings.
F1006	Entrainment Separators for Use in Marine Piping Applications.[4]
F1007	Pipe Line Expansion Joints of the Packed Slip Type for Marine Applications.
F1020	Line Blind Valves for Marine Applications.[4]
F1120	Circular Metallic Bellows Type Expansion Joints.
F1123	Non-Metallic Expansion Joints.
F1139	Steam Traps and Drains.
F1172	Fuel Oil Meters of the Volumetric Positive Displacement Type.
F1173	Epoxy Resin Fiberglass Pipe and Fittings to be Used for Marine Applications.
F1199	Cast and Welded Pipe Line Strainers.
F1200	Fabricated (Welded) Pipe Line Strainers.
F1201	Fluid Conditioner Fittings in Piping Applications Above 0 °F.
EJMA Standards (Expansion Joint Manufacturers Association, Inc.), 25 North Broadway, Tarrytown, NY 10591	
Standards of the Expansion Joint Manufacturers Association, Inc.	
FCI Standards (Fluid Controls Institute, Inc.), 31 South Street, Suite 303, Morristown, NJ 07960.	
FCI 69–1	Pressure Rating Standard for Steam Traps.[4]
MSS Standards (Manufacturers' Standardization Society of the Valve and Fittings Industry), 127 Park Street NE, Vienna, VA 22180.	
B36.10 ...	Wrought-Steel & Iron Pipe.
B36.19 ...	Stainless Steel Pipe.
MSS Standards (Manufacturers' Standardization Society of the Valve and Fittings Industry), 1815 North Fort Myer Drive, Arlington, Va. 22209.	
SP–6	Finishes-On Flanges, Valves & Fittings.
SP–9	Spot-Facing.
SP–25	Standard Marking System for Valves, Fittings, Flanges and Unions.
SP–37	[Reserved]
SP–42	[Reserved]
SP–44	Steel Pipe Line Flanges.[4]
SP–45	Bypass and Drain Connection.
SP–51	Class 150LW Corrosion Resistant Cast Flanges and Flanged Fittings.[4]
SP–53	Magnetic Particle Inspection—Steel Castings.
SP–55	Visual Inspection—Steel Castings.
SP–58	Pipe Hangers & Supports.
SP–61	Hydrostatic Testing Steel Valves.
SP–66	[Reserved]
SP–67	Butterfly Valves.[2,4]
SP–69	Pipe Hangers and Supports—Selection and Application.

TABLE 56.60–1(B)—ADOPTED STANDARDS APPLICABLE TO PIPING SYSTEMS (REPLACES TABLE 126.1)—Continued

SP–72	Ball Valves with Flanged or Butt-Welding Ends for General Service.[4]
SP–73	Silver Brazing Joints for Wrought and Cast Solder Joint Fittings.
SP–83	Carbon Steel Pipe Unions Socket-Welding and Threaded.

[1] [Reserved]

[2] In addition, for bronze valves, adequacy of body shell thickness shall be satisfactory to the Marine Safety Center. Refer to § 56.60–10 of this part for cast iron valves.

[3] Mill or manufacturer's certification is not required, except where a needed portion of the required marking is deleted due to size or is absent due to age of existing stocks.

[4] Because this standard offers the option of several materials, some of which are not generally acceptable to the Coast Guard, compliance with the standard does not necessarily indicate compliance with these regulations. The marking on the component or the manufacturer or mill certificate must indicate the material specification and/or grade as necessary to fully identify the materials used. The material used must comply with the requirements in this subchapter relating to the particular application.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69–127, 35 FR 9978, June 17, 1970; CGFR 72–59R, 37 FR 6190, Mar. 25, 1972; CGD 72–206R, 38 FR 17229, June 29, 1973; CGD 73–248, 39 FR 30839, Aug. 26, 1974; CGD 73–254, 40 FR 40165, Sept. 2, 1975; CGD 77–140, 54 FR 40611, Oct. 2, 1989; 55 FR 39968, 39969, Oct. 1, 1990; CGD 95–027, 61 FR 26001, May 23, 1996; USCG–1999–6216, 64 FR 53224, Oct. 1, 1999; USCG–1999–5151, 64 FR 67180, Dec. 1, 1999]

§ 56.60–2 Limitations on materials.

Welded pipe and tubing. The following restrictions apply to the use of welded pipe and tubing specifications when utilized in piping systems, and not when utilized in heat exchanger, boiler, pressure vessel, or similar components:

(a) *Longitudinal joint.* Wherever possible, the longitudinal joint of a welded pipe shall not be pierced with holes for branch connections or other purposes.

(b) *Class II.* Use unlimited except as restricted by maximum temperature or pressure specified in Table 56.60–1(a) or by the requirements contained in § 56.10–5(b) of this chapter.

(c) *Class I.* (1) For those specifications in which a filler metal is used, the following applies to the material as furnished prior to any fabrication:

(i) For use in service above 800 °F. full welding procedure qualifications by the Coast Guard are required. See part 57 of this subchapter.

(ii) Ultrasonic examination as required by item S–6 in ASTM A–376 shall be certified as having been met in all applications except where 100 percent

radiography is a requirement of the particular material specification.

(2) For those specifications in which no filler material is used in the welding process, the ultrasonic examination as required by item S–6 in ASTM A–376 shall be certified as having been met for service above 800 °F.

TABLE 56.60–2(A)—ADOPTED SPECIFICATIONS NOT LISTED IN THE ASME CODE

ASTM specifications	Source of allowable stress	Notes
FERROUS MATERIALS [1]		
Bar stock:		
A276 (Grades 304–A, 304L–A, 310–A, 316–A, 316L–A, 321–A, 347–A, and 348–A).	See footnote 4.	(4).
A575 and A576 (Grades 1010–1030)	See footnote 2	(2,3).
NONFERROUS MATERIALS		
Bar stock:		
B16 (soft and half hard tempers).	See footnote 5	(5,7).
B21 (alloys A, B, and C).	See footnote 8	(8).
B124:		
Alloy 377	See footnotes 5 and 9.	(5,9).
Alloy 464	See footnote 8	(8,10).
Alloy 655	See footnote 11	(11).
Alloy 642	See footnote 12	(7,12).
Alloy 630	See footnote 13	(7,13).
Alloy 485	See footnote 8	(8,10).
Forgings:		
B283 (forging brass)	See footnotes 5 and 9.	(5 9).
Castings:		
B26	See footnotes 5, 14, and 15.	(5,14,15).
B85	See footnotes 5, 14, and 15.	(5,14,15).

[1] For limitations in use refer to § 56.60–5.

[2] Allowable stresses shall be the same as those listed in UCS23 of section VIII of the ASME Code for SA–675 material of equivalent tensile strength.

[3] Physical testing shall be performed as for material manufactured to ASME Specification SA–675, except that the bend test shall not be required.

[4] Allowable stresses shall be the same as those listed in UCS23 of section VIII of the ASME Code for the corresponding SA–182 material.

[5] Limited to air and hydraulic service with a maximum design temperature of 150 °F. The material must not be used for salt water service or other fluids that may cause dezincification or stress corrosion cracking.

[6] [Reserved]

[7] An ammonia vapor test, in accordance with ASTM B 858M (incorporated by reference, see § 56.01–2), shall be performed on a representative model of each finished product design.

[8] Allowable stresses shall be the same as those listed in UNF23 of section VIII of the ASME Code for SB–171, naval brass.

[9] An ammonia vapor test, in accordance with ASTM B 858 (incorporated by reference, see § 56.01–2), shall be performed on a representative model for each finished product design. Tension tests shall be performed to determine tensile strength, yield strength, and elongation. Minimum values shall be those listed in table 3 of ASTM B283.

[10] Physical testing, including mercurous nitrate test, shall be performed as for material manufactured to ASTM B21.

[11] Physical testing shall be performed as for material manufactured to ASTM B96. Allowable stresses shall be the same as those listed in UNF23 of section VIII of the ASME Code for SB–96 and shall be limited to a maximum allowable temperature of 212 °F.

[12] Physical testing shall be performed as for material manufactured to ASTM B171, alloy D. Allowable stresses shall be the same as those listed in UNF23 of section VIII of the ASME Code for SB–171, aluminum bronze D.

[13] Physical testing shall be performed as for material manufactured to ASTM B171, alloy E. Allowable stresses shall be the same as those listed in UNF23 of section VIII of the ASME Code for SB–171, aluminum bronze, alloy E.

[14] Tension tests shall be performed to determine tensile strength, yield strength, and elongation. Minimum values shall be those listed in table X–2 of ASTM B85.

[15] Those alloys with a maximum copper content of 0.6 percent or less shall be acceptable under this specification. Cast aluminum shall not be welded or brazed.

Note: This Table 56.60–2(a) is a listing of adopted bar stock and nonferrous forging and casting specifications not listed in the ASME Code. Particular attention should be given to the supplementary testing requirements and service limitations contained in the footnotes.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69–127, 35 FR 9978, June 17, 1970; CGD 72–104R, 37 FR 14233, July 18, 1972; CGD 73–248, 39 FR 30839, Aug. 26, 1974; CGD 73–254, 40 FR 40165, Sept. 2, 1975; CGD 77–140, 54 FR 40612, Oct. 2, 1989; CGD 95–012, 60 FR 48050, Sept. 18, 1995; CGD 95–027, 61 FR 26001, May 23, 1996; CGD 95–028, 62 FR 51201, Sept. 30, 1997; USCG–1998–4442, 63 FR 52190, Sept. 30, 1998; USCG–1999–5151, 64 FR 67180, Dec. 1, 1999]

§ 56.60–3 Ferrous materials.

(a) Ferrous pipe used for salt water service must be protected against corrosion by hotdip galvanizing or by the use of extra heavy schedule material.

(b) (Reproduces 123.2.3(c)). Carbon or alloy steel having a carbon content of more than 0.35 percent may not be used in welded construction or be shaped by oxygen cutting process or other thermal cutting process.

[CGD 73–254, 40 FR 40165, Sept. 2, 1975]

§ 56.60–5 Steel (High temperature applications).

(a) (Reproduces 123.2.3(a).) Upon prolonged exposure to temperatures above 775 °F., the carbide phase of plain carbon steel, plain nickel alloy steel, carbon-manganese alloy steel, manganese-vanadium alloy steel, and carbon-silicon steel may be converted to graphite.

(b) (Reproduces 123.2.3(b).) Upon prolonged exposure to temperatures above 875 °F., the carbide phase of alloy steels, such as carbon-molybdenum, manganese-molybdenum-vanadium, manganese-chromium-vanadium and